

539,352

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
8 July 2004 (08.07.2004)

PCT

(10) International Publication Number  
**WO 2004/056252 A1**

(51) International Patent Classification<sup>7</sup>: **A47L 9/06**

[NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). **SPLINTER, Alexander, P.** [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

(21) International Application Number:  
PCT/IB2003/005666

(74) Agent: **WOLFS, Marc, J., M.**; Philips Intellectual Property & Standards, Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

(22) International Filing Date: 2 December 2003 (02.12.2003)

(25) Filing Language: English

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(26) Publication Language: English

(30) Priority Data:  
02080395.3 19 December 2002 (19.12.2002) EP

(71) Applicant (*for all designated States except US*): **KONINKLIJKE PHILIPS ELECTRONICS N.V.** [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

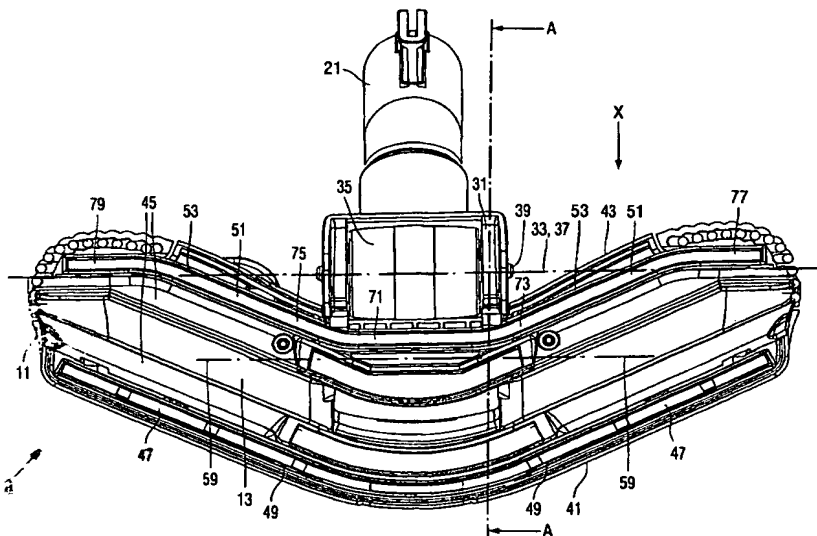
(84) Designated States (*regional*): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **LIJZENGA, Henk**

[Continued on next page]

(54) Title: A SUCTION ATTACHMENT FOR A VACUUM CLEANER



(57) Abstract: The invention relates to a suction attachment (9) for a vacuum cleaner. The attachment comprises a suction nozzle (11) and a coupling member (21) by means of which the attachment can be coupled to a suction channel (15) of the vacuum cleaner. The coupling member is pivotable relative to the suction nozzle about a pivot axis (33) which extends perpendicularly to a main displacement direction (X) of the attachment. The suction nozzle comprises a first brush (47) and a second brush (51) which extend near, respectively, a front edge (41) and a rear edge (43) of the suction nozzle (11). The suction nozzle further comprises an adjustment mechanism (55, 57) by means of which the first and the second brush can be adjusted from a first position, in which the first

and the second brush are in a retracted position relative to a bottom surface (45) of the suction nozzle, into a second position, in which the first and the second brush are in a protruding position relative to said bottom surface. The attachment further has a rolling member (35) which is arranged near said pivot axis. On a carpet, the first and the second brush are in the first retracted position and the rolling member is in contact with the carpet to provide a supporting force. On a hard floor, the first and the second brush are in the second protruding position and the rolling member is not in contact with the surface (5) to be cleaned in order to prevent bad manoeuvrability of the attachment on the hard floor. According to the invention the pivot axis (33) is arranged, seen in the main displacement direction (X), between the first brush (47) and at least a portion (77, 79) of the second brush (51). In this manner a stable position of the suction nozzle (11) on a hard floor is achieved, i.e. when the rolling member (35) is not in contact with the hard floor.

WO 2004/056252 A1



ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

**Declaration under Rule 4.17:**

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM,*

**Published:**

- *with international search report*

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*